Missouri Department of Higher Education

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NEW PROGRAM PROPOSAL FORM

Sponsoring Institution(s): St. Charles Community College

Program Title: Pre-Environmental Health and Safety

Degree/Certificate: Associate of Science

Options: Click here to enter text.

Delivery Site(s): SCC Main Campus

CIP Classification: 51.2202

*CIP code can be cross-referenced with programs offered in your region on MDHE's program inventory highered.mo.gov/ProgramInventory/search.jsp

Implementation Date: January 2015

Cooperative Partners: None

*If this is a collaborative program, form CL must be included with this proposal

AUTHORIZATION:

Dr. Michael B. Dompierre/Asst. VP A&SA		September 25, 2014
Name/Title of Institutional Officer	Signature	Date

Dr. Monica Hall-Woods	636-922-8634
Person to Contact for More Information	Telephone

Missouri Department of Higher Education

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COLLABORATIVE PROGRAMS

Sponsoring Institutions: St. Charles Community College (SCC)/Southern Missouri State University (MSSU)

Degree program: Associate of Science Pre-Environmental Health and Safety
Length of agreement: open-ended
(open-ended or limited)

1. Which institution(s) will have degree-granting authority?
   SCC will grant the Associate of Science and MSSU currently grants a Bachelor of Science in Environmental Health and Safety.

2. Which institution(s) will have the authority for faculty hiring, course assignment, evaluation, and reappointment decisions?
   Each institution will have the authority for its portion of the program.

3. What agreements exist to ensure that faculty from all participating institutions will be involved in decisions about the curriculum, admissions standards, exit requirements?
   Each institution will maintain its own admission standards and exit requirements. The MSSU Environmental Health Program director and the SCC Science Dean, shall meet at least once each term to review and discuss this agreement.

4. Which institution(s) will be responsible for academic and student-support services, e.g., registration, advising, library, academic assistance, financial aid, etc.?
   Each institution will be responsible for its portion of the program. The two institutions have a dual admisions program—when a student is admitted to SCC and indicates an interest in continuing at MSSU—immediate advising is provided to ensure the student's experience is as seamless as possible. Upon graduation from SCC, the student is already admitted to MSSU and does not need to re-apply.

5. What agreements exist to ensure that the academic calendars of the participating institutions have been aligned as needed?
   Not applicable.

6. In addition to the information provided by each participating institution regarding Financial Projections (Form FP), please address the following items:
   1. How will tuition rates be determined if they differ among the institutions?
      Each institution will continue to charge its own tuition for its part of the program.

   2. Has a formal agreement been developed regarding cost-sharing policies? If yes, please include it as part of the proposal. If no, please summarize the current understanding between all parties and the plans for developing a formal agreement.

It is understood each institution will bear the cost for its portion of the program.

3. What arrangements, if any, have been made for exchange of money between participating institutions?
   Not applicable.

7. What commitments have been made by all participants to evaluate the program systematically?
   The MSSU Environmental Health Program director and the SCC Science Dean, shall meet at least once each term to review and discuss this agreement.

8. If one institution wishes to discontinue the program, what agreements exist for terminating the offering?
   Either party may terminate the agreement upon one academic year's written notice of termination..

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PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

Institution Name St. Charles Community College
Program Name AS Pre-Environmental Health and Safety
Date 9/25/14

(Although all of the following guidelines may not be applicable to the proposed program, please carefully consider the elements in each area and respond as completely as possible in the format below. Quantification of performance goals should be included wherever possible.)

1. Student Preparation

- Any special admissions procedures or student qualifications required for this program which exceed regular university admissions, standards, e.g., ACT score, completion of core curriculum, portfolio, personal interview, etc. Please note if no special preparation will be required.
  None

- Characteristics of a specific population to be served, if applicable.
  General student population with an interest in pursuing an Environmental Health and Safety degree.

2. Faculty Characteristics

- Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.
  Masters Degree or higher

- Estimated percentage of credit hours that will be assigned to full time faculty. Please use the term "full time faculty" (and not FTE) in your descriptions here.
  50% of credit hours will be assigned to full time faculty

- Expectations for professional activities, special student contact, teaching/learning innovation.
  Ongoing professional development is required of all full-time faculty

3. Enrollment Projections

- Student FTE majoring in program by the end of five years.
  35

- Percent of full time and part time enrollment by the end of five years.
  75% full time, 25% part time

4. Student and Program Outcomes

- Number of graduates per annum at three and five years after implementation.
  Three years – 5 graduates per annum, Five years – 10 graduates per annum

- Special skills specific to the program.
  Scientific skills necessary to successfully transfer to an Environmental Health and Safety program.

- Proportion of students who will achieve licensing, certification, or registration.
  NA

- Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.
  Click here to enter text.

- Placement rates in related fields, in other fields, unemployed.
  NA

- Transfer rates, continuous study.
  90%

5. Program Accreditation

- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. **If there are no plans to seek specialized accreditation, please provide a rationale.**
  College accredited by HLC no program specific accreditation to be sought

6. Alumni and Employer Survey

- Expected satisfaction rates for alumni, *including timing and method of surveys.*
  90% 180 days after graduation; mailed survey followed up my telephone

- Expected satisfaction rates for employers, including timing and method of surveys.
  NA

7. Institutional Characteristics

- Characteristics demonstrating why your institution is particularly well-equipped to support the program.
  SCC currently has 2 chemistry labs and a dedicated prep room. In Fall 2013 3 full-time faculty member taught the equivalent of 3.7 FTE and 9 adjunct faculty taught the equivalent

of 4.4 FTE. SCC currently has 4 biology labs and a dedicated prep room. In Fall 2013 5 full-time faculty member taught the equivalent of 7 FTE and 20 adjunct faculty taught the equivalent of 6.6 FTE. There are 1.5 FTE lab assistant serving Biology and Chemistry.

PROGRAM STRUCTURE

A. Total credits required for graduation: 79-80

B. Residency requirements, if any: 15

C. General education: Total credits: 38-39

Courses (specific courses OR distribution area and credits):

Course Number	Credits	Course Title
Mathematics	4	
Communication	9	
Social Science	12	One course must comply with provisions of Section 170.011 RsMo
Natural Science	4-5	
Humanities	6	
International Studies	3	

D. Major requirements: Total credits: 41

Course Number	Credits	Course Title
BIO 246	4	Microbiology
CHM 115	5	General Chemistry I
CHM 116	5	General Chemistry II
CHM 240	3	Organic Chemistry I
CHM 243	2	Organic Chemistry lab
PHY 150/153	4	General Physics I with lab
PHE 106	2	Personal Wellness
Electives	16	Bio 122, 151, 241/244, 242, 265, 280; Bus 101,115; CHM 222, 241; GEO 120,
		225; MAT 175; PHY 105/107, 151/154; SPE 225; any foreign language

E. Free elective credits:
0
(Sum of C, D, and E should equal A.)

F. Requirements for thesis, internship or other capstone experience:
None

G. Any unique features such as interdepartmental cooperation:
———

Detailed Pre-Environmental Health and Safety Program Structure

Degree/Certificate Name:	Pre-Environmental Health and Safety -- Cooperative Agreement with MSSU
Department or Program:	Science/Biology
Degree/Certificate Type:	Bachelor of Science from MSSU

Description: Students will take the first 79 credits towards the BS degree at SCC, fulfilling all general education, math, science, and elective requirements. The last 45 credit hours will be taken at MSSU through distance learning (facilitated by SCC), or on the MSSU campus. Below are the general education and additional requirements at SCC which fulfill the MSSU requirements necessary prior to taking the Environmental Health and Safety semester block courses.

General Education Requirements:

	COURSE NUMBER	COURSE NAME	CREDIT HOURS
Written and Oral Communications	ENG 101 and ENG 102 and SPE 101	English Composition I English Composition II Oral Communications	3 3 3
Mathematics	MAT 162	College Algebra – STEM *lowest level of math required, calculus recommended by MSSU	4
Social Sciences I	HIS 101 or 102 and POL 101	US History American Government	3 3
Social Sciences II ***Select two courses with different prefixes***	ANT 105 or ECON 100, 110 or 120 or SOC 101 or PSY 101	Intro to Biological Anthropology Economics Intro to Sociology Intro to Psychology	6
Humanities I ***Select one course***	ART 101 or MUS 111 or THE 122	Art Appreciation Music Appreciation Intro to Theater	3
Humanities II ***Select one course***	LIT 272 or 273 or LIT 250 or 260 or LIT 210 or 220 or PHIL 101 or PHIL 160	World Literature English Literature American Literature Intro to Philosophy Ethics	3

Biology ***Select one course***	BIO 110/113 or BIO 105/106 or BIO 150 or BIO 240/243	Human Biology Essentials of Biology or General Biology or Anatomy and Physiology I	4-5
Science	Bio 246 and CHM 115 and CHM 116 and CHM 240/243 and PHY 150/153	Microbiology General Chemistry I General Chemistry II Organic Chemistry I General Physics I	4 5 5 5 4
Health and Wellness*	PHE 106	Personal Wellness	2
*International Studies** ***Select one course***	ANT 101 or GLC 215 or HIS 145 or 146 or GEO 100 or BUS 255 or any foreign language	Physical Anthropology and Archeology Intercultural Communication or Western Civilization or Principles of Geography or International Business	3
*Electives*** ***These should be selected to support the area the student wishes to focus their degree***	Bio 122***, 151, 241/244, 242, 265, 280 BUS 101, 115 CHM 222, 241 GEO 120, 225 MAT 175 PHY 105/107, 151/154 SPE 225 any foreign language	Environmental Science, General Biology II, Anatomy & Physiology II, Anatomy and Physiology I supplement, Pathophysiology, Nutrition Pathways Intro to Business; Intro to Public Relations Quantitative Analysis; Organic Chemistry II Introduction to GIS, Advanced GIS Introductory Statistics Environmental Geology, General Physics II Professional Communication	16
TOTAL REQUIRED HOURS			**79**

*Required by MSSU

**Additional credit hours received when taking SCC General Education Courses will count towards the elective credit hours

***Introductory level environmental science course will not count towards the core requirements, but may serve as a pathway for students to assure their interest in the field

COURSES BY SEMESTER -- ***four-year plan with Missouri Southern State University***

FIRST SEMESTER			**15 (16)**
MAT 162	**College Algebra**	4	
ENG 101	**English Composition I**	3	
CHM 115	**General Chemistry I**	5	
SPE 101	**Oral Communications**	3	
(COL 101)	College Success Seminar	1	
SECOND SEMESTER			**17 (18)**
CHM 116	**General Chemistry II**	5	
Biology	***Bio 110/113, 105/106, 150, or 240/243***	4-5	
ENG 102	**English Composition II**	3	
HIS 101 or 102	**US History**	3	
PHE 106	**Personal Wellness**	2	
THIRD SEMESTER			**16**
CHM 240	**Organic Chemistry I**	3	
BIO 246	**Microbiology**	4	
POL 101	**American Government**	3	
Social Science II	***ANT 105, ECON 100,110,120, SOC 101, or PSY101***	3	
Humanities I	***ART 101, MUS 111, or THE 122***	3	
FOURTH SEMESTER			**15**
CHM 243	**Organic Chemistry I lab**	2	
PHY 150/153	**General Physics I**	4	
Social Science II	***ANT 105, ECON 100,110,120, SOC 101, or PSY101***	3	
Humanities II	***LIT 272, 273, 250, 260, 210, 220, PHIL 101, or 160***	3	
International Studies	***ANT 101, GLC 215, HIS 145, 146, GEO 100, BUS 255 or any foreign language***	3	
FIFTH SEMESTER – EIGHTH SEMESTER*			**61-62**
Electives	***Selection should be based on area of focus of degree***	16-17	
Environmental Health Semester Block	***MSSU core courses; Can be taken in any order, based on semester block that is currently available on-line or on-site at MSSU***	43	
Internship	***Can be taken during any semester at MSSU, but requires pre-planning with MSSU faculty prior to enrollment***	2	
TOTAL HOURS REQUIRED FOR GRADUATION			124

* Can be done at SCC through a combination of on campus and distance-learning

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STUDENT ENROLLMENT PROJECTIONS

Year	1	2	3	4	5
Full Time	**10**	**15**	**20**	**25**	**30**
Part Time	**5**	**10**	**10**	**10**	**10**
Total	**15**	**25**	**30**	**35**	**40**

Please provide a rationale regarding how student enrollment projections were calculated:

Based on current enrollment in Biology and Chemistry upper level transfer courses and student feedback

Provide a **rationale** for proposing this program, including **evidence of market demand and societal need supported by research**:

Saint Charles Community College is committed to student success. We provide the finest instruction, resources, and support services to enhance growth and development of our students. Recently, we entered a cooperative agreement with Missouri Southern State University to allow SCC students to smoothly transfer into MSSU's Bachelor of Science degree in Environmental Health and Safety. This agreement would allow SCC students to take their first 79 credits at SCC, then the last 45 credits online with MSSU. SCC students would be able to complete a B.S. degree without ever leaving the SCC campus. MSSU's degree is one of thirty across the nation that is accredited by the National Environmental Health Science and Protection Accreditation Council (EHAC). Many positions (such as those with US Public Health Services) require a degree from an accredited school. As no one else in the St. Louis area provides this type of degree, SCC is providing access to a degree program that will benefit students and the community. Because there are multiple job opportunities with a BS in Environmental Health and Safety (from epidemiologists to occupational health specialists), students will have the

opportunity to specialize their degree. An AS degree at SCC would allow students to earn an SCC degree students as they are working towards the B.S. at MSSU. This would allow the procurement of financial aid through SCC for a degree that would match the requirements for the MSSU degree.

MSSU
MISSOURI SOUTHERN STATE UNIVERSITY

Date: September 18, 2014

From: Dr. Mike Fletcher
Environmental Health Program Director

To: Mike Dompierre
Assistant VP for Academic and Student Affairs
St. Charles Community College

Re: Letter of Support for the Associate of Science for pre-Environmental Health and Safety degree

St. Charles Community College (SCC) and Missouri Southern State University (MSSU) have a cooperative agreement whereby St. Charles Community College students will take the first 79 credits towards the BS degree in Environmental Health & Safety from MSSU at SCC, fulfilling all general education, math, science, and elective requirements. The last 45 credit hours will be taken at MSSU through distance learning (facilitated by SCC), or on the MSSU campus. The end result being students awarded the BS degree in Environmental Health & Safety (EH&S) from MSSU. The BS degree in Environmental Health & Safety from MSSU is the only degree accredited by the National Environmental Health Science and Protection Accreditation Council (EHAC) in Missouri. Graduates of this degree are currently protecting the environment, public health and safety by working for various governmental and industrial entities across the state and the nation.

SCC has developed the Associate of Science degree in pre-Environmental Health and Safety (ASEH&S) to facilitate and initiate this cooperative agreement. The ASEH&S degree of SCC will provide the student a seamless transfer to the EH&S degree of MSSU. Therefore, I consider the ASEH&S degree from SCC to be essential in providing access to an accredited degree in environmental health and safety for students in the SCC service area. The ASEH&S degree from SCC will allow future graduates with the accredited EH&S degree to better serve and protect the environment, public health and safety of persons in their area of employment. The EH&S degree from MSSU at Joplin has had a 97% placement rate for past graduates. According to the U.S. Department of Labor, Bureau of Labor and Statistics "employment of environmental scientists and specialists is projected to grow 15 percent from 2012 to 2022, faster than the average for all occupations". The demand for workers in the environmental health and safety field is high and the ASEH&S degree from SCC will be able to facilitate students to become graduates and ultimately professionals in this field.

Please consider this as my whole-hearted support for the creation and implementation of the Associate of Science for pre-Environmental Health and Safety from St. Charles Community College.

Links to benefits of Environmental Health & Safety degree

http://www.bls.gov/ooh/life-physical-and-social-science/environmental-scientists-and-specialists.htm
fast growing job sector

http://www.bls.gov/ooh/healthcare/occupational-health-and-safety-specialists.htm
while not as fast growing as above sector, still a good salary

http://aehap.org/
40%–50% of the EH workforce in state and local agencies are eligible to retire in the next five years, leaving major workforce gaps

http://aehap.org/accreditation-5/students-benefits-of-an-accredited-degree
With a 90% placement rate, a career in environmental health is a good choice.

http://aehap.org/about-aehap-2/what-is-environmental-health
Environmental Health (EH) professionals perform a wide array of include those who monitor air quality, water and noise pollution, control for toxic substances and pesticides, conduct restaurant inspections and promote healthy land use and housing.

http://www.careersenvhealth.com/
EH professionals are best known for their efforts to ensure the safety of what we eat, breathe, touch and drink.

http://www.careersenvhealth.com/why.php
We need more people to choose a career in environmental health to protect human health and the environment.

http://www.careersenvhealth.com/what.php
Where you could work in EH

http://www.neha.org/credential/REHS.html
Individuals holding the REHS/RS credential show competency in environmental health issues, direct and train personnel to respond to routine or emergency environmental situations, and frequently provide education to their communities on environmental health concerns.
You are eligible for the credential if you have a Bachelor's, Master's, or PhD in environmental health from a degree program accredited by the National Environmental Health Science and Protection Accreditation Council.

Partnership Agreement Missouri Southern State University St. Charles Community College

Missouri Southern State University (MSSU) and St. Charles Community College (SCC) agree to join in a partnership for providing access to baccalaureate and master's degree programs in the St. Charles region of Missouri using a process of inter-institutional articulation through collaboration and cooperation. The partners agree to work together to develop 2 + 2 educational programs within the region, using locally available classrooms for instruction and exploring opportunities for telecommunication and on-line based educational delivery systems.

The partnership educational activities will be governed by joint application of each institution's policies and procedures and by appropriate regulations of the Department of Elementary and Secondary Education and the Coordinating Board of Higher Education. The academic officers of each institution (VPAA or delegate) shall serve as liaison officers for the partnership.

The partners will continue to develop the ways and means by which cooperation and collaboration may be facilitated and through which the needs of students can be best served.

This partnership shall be in effect from the start of the Fall of 2014 semester until the end of the Summer of 2016 semester and shall automatically renew itself for an indefinite term unless terminated by either party upon one academic year's written notice of termination. The partners agree that any course or courses in progress at the termination date will be completed. In the event of termination, they also agree that they will work together to assist students in degree programs in finding appropriate ways and means for completing their degree programs If discontinued, SCC will immediately cease enrolling new students to the program. The timeline for completion will be specified by the end of the semester following the announcement of discontinuance.

_____
President
Missouri Southern State University

_____
President
St. Charles Community College

_____
Date

_____
Date

Missouri Southern State University/St. Charles Community College Articulation Agreement

I. Purpose of Agreement

The purpose of this agreement between St. Charles Community College and Missouri Southern State University is to provide for a smooth transfer of credit between two institutions with the ultimate goal of program completion for students who attend both institutions. This agreement complies with CBHE's "Credit Transfer: Guidelines for Student Transfer and Articulation among Missouri Colleges and Universities" adopted in April 1998 and "Principles of Good Practice for Transfer and Articulation" adopted in June 1988.

II. Term of Agreement and Modification

This agreement shall be binding on both parties from the time it is signed by both parties for a period of two years and shall be automatically renewed for each subsequent year unless written notice is given by either party one academic year in advance of their intent not to renew. Modifications and revisions in the agreement may be made from time to time as seems appropriate to both parties by written and signed amendments or by the new versions of the agreement as a whole.

III. Bachelor's Degree Program to be offered by MSSU in partnership with SCC.

The Bachelor of Science degree in Environmental Health and Safety is to be offered by MSSU in partnership with SCC. The mission of the degree program is to provide students with the knowledge and skills necessary to work as an environmental health and safety professional. Environmental health is the science of preventing physical, chemical or biological hazards from adversely impacting human health or the ecological balances that sustain our environment. Career opportunities include professional positions with public health departments, environmental protection agencies, environmental consultants and occupational health and safety divisions of industry. The transfer program through Missouri Southern State University is fully accredited by the National Environmental Health Science and Protection accreditation Council (EHAC).

General Education Requirements (fulfills requirements in Area A – I at MSSU)

MSU	MSSU Credit Hours	SCC	SCC Credit Hours	Total Credit Hours Required
Area A - Written Communication				
ENG 101 College Composition I (WI)	3	ENG 101 English Composition 1	3	6
ENG 102 College Composition II (WI)	3	ENG 102 English Composition 2	3	
Area B - Oral Communication				
COMM 100 Oral Communication	3	SPE 101 Communications	3	3
Area C – Mathematics				
MATH 130 College Algebra	3	MAT 160 College Algebra	4	3
The above course meets the minimum requirement of College Algebra by EHAC				
Area D - Life and Physical Sciences				
At least 3 hours of biological science with lab required by EHAC, such as BIO 101, 105, 110 or 121 at MSSU	3	BIO 110/113 Human Biology BIO 105/106 Essentials of Biology BIO 150 General Biology I (5 credits) BIO 240/243 Anatomy and Physiology I	4 - 5	4-5
At least 3 hours of microbiology with Lab required by EHAC, such as BIO 231	3	BIO 245/247 Microbiology	4	4
At least a total of 6 hours of general chemistry with labs required by EHAC, such as CHEM 151 and 152	6	CHM 115 General Chemistry I (5 credits) CHM 116 General Chemistry II (5 credits)	10	10
At least 3 hours of organic chemistry with lab required by EHAC, such as CHEM 301	3	CHM 240/243 Organic Chemistry I	5	5
At least 3 semester hours of physics required by EHAC, such as PHYS 150 or 151	3	PHY 150/153 General Physics	4	4
The above courses meet the minimum (3 - 6) hours for the basic science courses and include at least 6 hours of additional basic science as required by EHAC. Any change in EHAC requirements may require a change in the science or math requirement.				

Minimum Total Hours of Basic Science Required:				27-28
Area E - Social and Behavioral Science				
1. Required Courses:				6
HIST 110 U.S. History 1492-1877 *or* HIST 120 U.S. History 1877-Present	3	HIS 101 U.S. History to 1877 or HIS 102 U.S. History since 1877	3	3
PSC 120 Govt: U.S., State & Local** **Missouri Constitution Test Required	3	POL 101 American Govt	3	3
2. Select two courses w/ different prefixes				6
ANTH 101 General Anthropology ECON 180, 201 or 202 Economics GEOG 101 Intro to Geography SOC 110 Intro to Sociology PSY 100 General Psychology	3	ANT 105 Introduction to Biological Anthropology ECON 100, 110 or 120 Economics SOC 101 Intro to Sociology PSY 101 Intro to Psychology	3	
Area F - Humanities and Fine Arts				
1. Select One				3
ART 110 Art Appreciation MUS 110 Music Appreciation MUS 106 World Music TH 110 Theatre Appreciation	3	ART 101 Art Appreciation MUS 111 Music Appreciation THE 122 Intro to Theater	3	
2. Select One				3
ENG 150 Intro to Literature ENG 305 Short Story ENG 261 or 262 World Literature ENG 271 or 272 British Literature ENG 281 or 282 American Literature PHIL 201 Intro to Philosophy PHIL 212 Ethics	3	LIT 272 World Literature or LIT 273 World Literature LIT 250 English Literature before 1800 or LIT 260 English Literature after 1800 LIT 210 American Literature 1620-1865 or LIT 220 American Literature 1865-present PHIL 101 Intro to Philosophy PHL 160 Ethics	3	
Area G - Health and Wellness				
KINE 103 Lifetime Wellness	2	PHE Personal Wellness	2	2
Area H - International Requirements				

ANTH 155 Anthropology/Archaeology ANTH 342 Comparative Cultures CJAD 301 International Justice Systems CJAD 370 International Terrorism COMM 305 Intercultural Comm. EDUC 280 Foundations Global Education ENG 385 Continental Novel GEOG 211 Regions & Nations GEOG 310 Human & Cultural Geography HIST 130 or 140 Western Civilization HIST 150 Asian Civilization HIST 160 History of Latin America IB 210 Global Business Literacy IB 310 International Business INST 201 Intro to International Studies PHIL 320 Comparative Religion SOC 303 The Arab World *Or* any foreign language course	3	ANT 101 Physical Anthropology and Archaeology GLC 215 Intercultural Communication HIS 145 Western Civilization or HIS 146 Western Civilization GEO 100 Principles of Geography BUS 255 International Business Or Any Foreign language	3	3
			Total Required credit hours of General Education: 62-63	

MSSU Bachelor of Science Degree
Environmental Health & Safety – Distance Learning Track

Environmental Health Semester Blocks (43 hours) – The EH-DLT requires successful completion of four Environmental Health Semester Blocks. Students may enroll into any Semester Block that is currently available. These courses are taken via the Internet from MSSU. Semester Block grades are given for each individual course. Students must enroll for the entire block of courses to graduate in a timely manner.

Fall Semester, Even Years		
Course	**Course Title**	**Credit Hours**
EH 370	Environmental Health & Safety	3
EH 377	Food Safety	3
EH 378	Occupational Health and Safety	3
EH 380	Epidemiology	3
		Total Hours: 12
Spring Semester, Even Years		
EH 371	Environmental Toxicology (WI)	3
EH 373	Solid & Hazardous Waste Management	3

EH 375	Disease Vector Control	1
EH 376	Water Quality Management	3
EH 382	Epidemiological Statistics	1
		Total Hours: 11
Fall Semester, Odd Years		
EH 312	Environmental Biology (WI)	4
EH 372	Environmental Regulations	3
EH 374	Industrial Hygiene Sampling & Management	3
		Total Hours: 10
Spring Semester, Even Years		
EH 311	Soil Morphology & Sewage Systems	3
EH 481	Environmental Risk and Safety Management (WI)	3
EH 411	Hazardous Material Safety	2
EH 410	Hazardous Incident Management	1
EH 379	Career Planning in EH&S	1
		Total Hours: 10

Additional Requirement: Must be taken in addition to the Environmental Health Semester Block courses		
Course	**Course Title**	**Credit Hours**
EH 491	Internship in Environmental Health Note: This course may be taken during any semester at MSSU, but requires pre-planning with EH Faculty prior to enrollment.	**2**

Total Credits Required from MSSU by Internet	**45**
Electives (see additional courses in SCC course descriptions; additional credit hours received when taking SCC General Education Courses will count towards the elective credit hours)	**16-17**
TOTAL CREDITS REQUIRED TO RECEIVE A BACHELOR OF SCIENCE DEGREE## ##Elective credits or course prerequisite may be required to reach the 124 total required hours.	**124**

The EH courses may be modified or changed by MSSU to provide updated or more relevant information to the environmental health professional or to meet EHAC accreditation requirements. The above plan is based on internet delivery of the EH courses by MSSU. Students may take MSSU on campus courses toward the MSSU EHS degree plan, however the sequence of EH on campus courses is different.

IV. Transfer Policy to Missouri Southern State University

The University subscribes to the guidelines of the Coordinating Board for Higher Education of the State of Missouri. The University welcomes students with course work or associate's degrees from other accredited colleges and pledges to seek harmonious solutions to any problems that transfer students may encounter. Transfer credit from an accredited institution may be used to satisfy any equivalent course requirements.

Courses that meet graduation requirements from the transferring accredited institution not counting toward specific major or general education requirements at MSSU will be accepted as general elective courses. The University computes cumulative grade point averages on the basis of all hours attempted at all colleges attended. Courses that cannot transfer are not used in GPA calculation.

V. MSSU Academic Policies

MSSU shall regularly publish a catalog containing all applicable academic policies for students transferring from SCC to MSSU. These policies will apply equally to all students enrolled in Missouri Southern State University. MSSU will be bound by its published policies.

VI. Articulation Agreements

MSSU will work with SCC to develop and maintain future and existing articulation agreements between each institution in mutually agreed upon completion areas. These articulation agreements will be publicized on the websites of both MSSU and SCC, with links to the other institution's webpage. In addition, the college and university will work to make seamless the transition for students between the two institutions.

Environmental Health and Science Degree Requirements:

1. A minimum of 124 semester hours of college credit applicable to a Baccalaureate Degree are required for graduation.
2. A 2.0 GPA is required for all credit hours attempted at SCC.
3. A 2.0 GPA is required for all credit hours required for the major, both inside and outside the major department.
4. A 2.0 GPA is required for all courses, required and elective, taken in the major department.
5. The BS degree requires a minimum of 40 hours at the 300/400 level, Courses taken at SCC which are equivalent to 300/400-level courses at MSSU will not be considered upper-level and will not count towards the 40 minimum required upper-level hours.
7. The EH&S major must take the Senior Assessment exam from MSSU prior to graduation.
8. The student is required to have a proctor approved by MSSU Distance Testing for all EH&S exams. Exams will be proctored at SCC's Assessment Center by the Assessment Center staff.
9. Students actively participating in the degree program who do not meet the MSSU

institutional residency last 30 of 36 credit hour requirement must complete an academic petition. As part of this agreement, MSSU has agreed that these petitions will be approved.

10. The MSSU EHS Program Director will notify the SCC Science Dean and faculty liaison of any change in Environmental Health Accreditation Council course/hour requirements and will work with SCC to help maintain a pathway for SCC students to an EHAC accredited degree plan.

VII. Marketing and Recruitment

1. The SCC Director of Marketing and Communications will collaborate with the MSSU Director of University Relations and Marketing to annually develop a joint marketing communications plan to promote MSSU's programs in partnership with SCC. The plan will include objectives and strategies aimed at targeted audiences and tactics that include SCC's printed class schedule; the college's portal; signage; and in other venues and media as appropriate. SCC agrees to promote and market the degree plan to their students.
2. SCC agrees to put the degree plan in the community college catalog.
3. SCC agrees to promote the degree plan in at least one course to recruit students into the degree plan. List the course(s) in which the degree plan will be promoted at the community college:
    a. Bio 122 – Environmental Science
    b. Bio 105 – Essentials of Biology
    c. Bio 110 – Human Biology
    d. Bio 150 - General Biology I
    e. Bio 240 – Anatomy and Physiology I
    f. CHM 115 – General Chemistry I
4. SCC agrees to provide a faculty liaison on campus for the Environmental Health & Safety degree for the students that are active in the degree plan at the community college. The faculty liaison will work in conjunction with the faculty at MSSU to help students in the major to attain completion of the degree plan.
5. MSSU will provide advisement to SCC students in the degree plan by distance communication methods.

VIII. Curricular Programming

Missouri Southern State University and St. Charles Community College both provide curricular options and programs for their students.

Missouri Southern State University will apply 79 credit hours of coursework from St. Charles Community College toward a MSSU degree. Missouri Southern State University accepts all courses in transfer except those recognized by the sending institution as remedial in nature. Students will need to complete 124 credit hours, including 45 credit hours of upper divisional coursework, for a Bachelor's degree in Environmental Health & Safety.

Missouri Southern State University is a signatory institution within the State of Missouri to the Associate in Arts (A.A), the Associate of Arts in Teaching (A.A.T) and the 42-hour block of coursework. In addition, MSSU recognizes the value of the Associate in Applied Science (A.A.S) degrees and evaluates courses individually for transfer. Additional articulation agreements may be developed at the request of St. Charles Community College or Missouri Southern State University.

It is anticipated that as each institution grows its respective programs, the opportunities for students will extend beyond existing programs. It is the desire of both institutions to provide the best possible education for students unable to attend traditional campus programs.

IX. Dual Admissions

St. Charles Community College and Missouri Southern State University have a dual admissions program—when a student is admitted to St. Charles Community College and indicates an interest in continuing at Missouri Southern State University—immediate advising is provided to ensure the student's experience is as seamless as possible. Upon graduation, the student is already admitted to Missouri Southern State University and does not need to re-apply.

X. Regular Meetings

The MSSU Environmental Health Program Director and the SCC Science Dean, shall meet at least once each term to review and discuss this agreement.

MSSU Course Descriptions

The following course descriptions are to aid Saint Charles Community College in suggesting equivalent credits for the courses students will complete through Saint Charles Community College. Suggested equivalents may then be provided to MSSU to finalize the Articulation Agreement.

Area A

ENG 0101 (F,S,Su) 3 hrs. cr.
College Composition I *(Writing Intensive)*
An introduction to the principles of college-level writing and critical thinking. Students will write a number of essays for a variety of purposes and audiences. Successful completion of the course permits the student to enroll in English 102. Students demonstrating exceptional ability as indicated by Writing Placement scores may take English 111.
ENG 0102 (F,S,Su) 3 hrs. cr.
College Composition II *(Writing Intensive)*
Continued development of writing skills. Emphasizes writing from sources. Initiation, development and completion of a research paper. Prerequisite: English 101.

Area B

COMM 0100 (F,S,Su) 3 hrs. cr.
Oral Communication
Principles of oral communication, including speaking and listening competencies and skills. Primary emphasis is on presenting various types of speeches and improving listening ability. Research organization, reasoning, language and evaluation skill development are included. Three contact hrs. per week. (Required of all degree candidates.)

Area C

MATH 0130 (F,S,Su) 3 hrs. cr.
College Algebra
Functions and their graphs; polynomial, rational, exponential and logarithmic functions; systems of equations; the binomial theorem. Prerequisites: Two units of high school algebra, one unit of high school geometry and a score of 22 or above on the ACT Mathematics Section or MATH 030 with grade of 'C' or better.
MATH 0131 (F,S,Su) 3 hrs. cr.
Finite Mathematics
Finite mathematics with algebra that is designed for business, social science and computer science students. Set theory, functions, matrices, linear programming, probability and statistics, with applications. Prerequisites: Two units of high school algebra and a score of 22 or above on the ACT Mathematics Section or MATH 030 with a grade of 'C' or better.
MATH 0135 (F,S,Su) 3 hrs. cr.
Trigonometry
Trigonometric functions, inverses and their graphs; trigonometric identities and equations; solution of the general triangle; complex numbers. Prerequisites: Two units of high school algebra, one unit high school geometry and a score of 22 or above on the ACT Mathematics Section or MATH 030 with grade of 'C' or better.
MATH 0140 (F,S) 5 hrs. cr.
Algebra and Trigonometry

Equivalent of MATH 130 and MATH 135. Prerequisites: Two units of high school algebra, one unit of high school geometry and a score of 22 or above on the ACT Mathematics Section or MATH 030 with a grade of 'C' or better. Only two hours credit for students with MATH 135 or MATH 130 credit. No credit for students with credit for MATH 130 and MATH 135.

MATH 0150 (F,S) 5 hrs. cr.

Calculus with Analytic Geometry I

Limits. Differentiation of algebraic and transcendental functions and integration of algebraic functions. Plane analytic geometry. Applications to physical problems. Prerequisites: MATH 140 with a grade of 'C' or better or four units of high school mathematics and a satisfactory score on the Mathematics Placement Test.

Area D

BIO 0101 (F,S,Su) 4 hrs. cr.

General Biology

General treatment of unifying principles of living organisms at the chemical, cellular organismic and population levels of organization including cell structure and function, metabolism, genetics, evolution and ecology. Emphasis will be placed on biological principles as they relate to humans, stressing how humans interact with their environment and possible outcomes of these interactions. Three lectures, one two-hour lab per week. Not for biology majors.

BIO 0105 (F,S) 4 hrs. cr.

General Biology: Environmental Health Emphasis

A general biology course that emphasizes environmental health. The organization, complexity and interdependency of life is revealed through the study of life chemistry, cells organisms, respiration, photosynthesis, genetics, populations, evolution and ecology. Emphasis is placed on protection of the human environment with discussion of environmental issues and environmentally related public health concerns. Three lectures, one two hr. lab per week. Credit is not granted for both BIO 101 and BIO 105. Not for biology majors.

BIO 0110 (F,S) 4 hrs. cr.

Principles of Biology I

First in a two-course introductory sequence for biology majors. The unifying principles of living organisms including scientific method, biological molecules, cell structure, function and metabolism, genetics, evolution and a survey of Prokaryotes, Protistans and Fungi. Three lectures, one two-hour lab per week. Prerequisites: BIO 101 or BIO 105 or an ACT composite score of 22 or higher. High school chemistry strongly recommended.

BIO 0121 (F,S,Su) 4 hrs. cr.

Human Anatomy and Physiology I

The first in a two-course sequence in which human anatomy and physiology are studied using a body system approach. Includes the concept of scientific inquiry and the fundamental concepts of cell biology, cell metabolism and genetics. Three lectures and one, two-hour lab per week. Fulfills the General Education Requirements in Area 3, Section A for certain Allied Health, Environmental Health, Kinesiology and Nursing majors. Prerequisite: ACT composite score of 19 or higher or a satisfactory score on the departmental assessment or BIO 070 with a grade of C or better.

BIO 0231 (F,S,Su) 5 hrs. cr.

General & Medical Microbiology

Structure and function of microorganisms. Topics include general principles of microbiology, immunology and identification of microorganisms. Three lectures and two, two-hour labs per week. Prerequisites: BIO 111 (or BIO 121) and CHEM 120 or 151.

CHEM 0151 (F,S,Su) 5 hrs. cr.
General Chemistry I
Introductions to theories of chemistry with emphasis on the relationship of structure to properties of matter, the changes that occur during chemical reactions and the quantitative aspects of these changes. Four lectures, one three-hour laboratory per week. Prerequisite or co-requisite: MATH 140 or higher level math course.
CHEM 0152 (F,S,Su) 5 hrs. cr.
General Chemistry II
Continuation of Chemistry 151. Emphasis on the dynamics and thermodynamics of chemical processes and on the properties and reactions of analogous groups of cations and anions. Four lectures, one three-hour laboratory per week. Prerequisites: CHEM 151 with a minimum grade of 'C' or permission of instructor and MATH 140 or higher level math course.
CHEM 0301 (F,S) 5 hrs. cr.
Organic Chemistry I
Principles of organic chemistry including nomenclature, structure, sterochemistry and reactions will be studied by the functional group approach. A brief introduction to organic reaction mechanisms and spectroscopy will be presented. Four lectures and one three-hour laboratory per week. Prerequisite: CHEM 152 with a grade of 'C' or better.
PHYS 0150 (Demand) 5 hrs. cr.
Environmental Physics
Emphasis on physics-based problems and laws related to the environment and to human health. Topics include forces in nature, energy, laws of thermodynamics, heat transfer and radiation, properties of fluids and fluid flow, mechanical properties of solids, sound, electromagnetic waves and spectra, basic electricity, radioactivity and nuclear physics. Designed for students in environmental health and students in biology needing only one course in physics. Students may not receive credit for both Physics 150 and 151 or Physics 150 and 152. Four hours lecture, one three-hour laboratory per week. Prerequisite: MATH 140.
PHYS 0151 (F,S,Su) 5 hrs. cr.
Elementary College Physics I
Mechanics, rotational dynamics, properties of matter, heat, wave motion and sound. Four hours lecture, one three-hour laboratory per week. Prerequisite: MATH 140.
PHYS 0250 (F,S) 2 hrs. cr.
General Physics I
Introductory study of physics covering vectors, geometric and trigonometric applications in physics, , kinematics and dynamics of particles in one and two dimensions and Newton's laws of motion. Course meets for the first five weeks of the semester. Four hours lecture and one three-hour laboratory per week. Prerequisite or co-requisite: MATH 150.
PHYS 0260 (F,S) 3 hrs. cr.
General Physics II
Introductory study of energy, momentum, kinematics and dynamics of rigid bodies, equilibrium, fluids, heat and thermodynamics. The course is sequential to PHYS 250 and begins the sixth week of the semester. Four hours lecture, one three-hour laboratory/recitation session per week. Prerequisite: PHYS 250 or 251 with a grade of 'C' or better. Prerequisite or co-requisite: MATH 150.

Area E
HIST 0110 (F,S) 3 hrs. cr.

United States History 1492-1877
Survey of the United States from the era of discovery through reconstruction. Prerequisite: UE 150 or a score of 17 or higher on the ACT Reading Section.
HIST 0120 (F,S) 3 hrs. cr.
United States History 1877 to Present
Survey of the economic, social and political development of the United States from 1877 to the present. Prerequisite: UE 150 or a score of 17 or higher on the ACT Reading Section.
PSC 0120 (F,S) 3 hrs. cr.
Government: US State & Local
Designed to give students an understanding of their governments, enabling them to keep up with political developments with the goal of becoming informed citizens needed to sustain democracy. Successful completion of this course fulfills the requirements for the state-mandated Missouri Constitution Test.
ANTH 0101 (F) 3 hrs. cr.
General Anthropology
An introduction to the field of anthropology, including its historical origins and the four sub-fields central to the discipline today: sociocultural, linguistic, archeological and physical/biological branches. Applied aspects of each of the four subfields will also be addressed. An emphasis is placed on the holistic nature of the discipline, centering around an evolutionary and comparative approach to our species. The role of culture as the primary human adaptation for survival is emphasized, as well as the origins of the biological traits necessary for the development of
culture. This course documents the interrelationship of ecology and subsistence patterns with social structures and institutions across different historic periods and cultures.
ECON 0180 (F,S,Su) 3 hrs. cr.
The American Economic System
A core course on the goals organization and operation of the U.S. economy. Topics include: scarcity and choice; the role of profits, saving, investment and competition; the economic functions of government; limitations of the market system; other types of economic systems; and international trade. Personal finance topics include setting goals, budgeting, savings and investing, credit management and retirement planning. Not for business majors or for those who have taken ECON 201 or 202. Prerequisite: ACT MATH Score of 19 or higher or MATH 030 or above.
ECON 0201 (F,S,Su) 3 hrs. cr.
Principles of Economics (Macro)
A basic course that explains the organization, operation and goals of the U.S. economic system with emphasis on basic principles and concepts; measurement, determination and stabilization of national income; unemployment and inflation; the role of money and monetary policy; fiscal policy; economic growth; international finance; and current economic problems. Prerequisite: MATH 030 or above.
ECON 0202 (F,S,Su) 3 hrs. cr.
Principles of Economics (Micro)
A continuation of economic principles with emphasis on the theory of price determination and income distribution, with particular attention to the nature and application of those bearing on decision making within a household, firm or industry; cost and revenue implications of various product and factor market structures; and international trade and finance. Prerequisite: MATH 030 or above.
GEOG 0101 (S-Odd) 3 hrs. cr.
Introduction to Geography

An introduction to geography, with the goal of increasing geographic literacy and recognizing the importance of geography in everyday life. This course introduces students to the discipline, its basic principles and major concepts, tools, techniques and methodological approaches. It traces the development of modern geography and surveys its physical and human sub-disciplines.

PSY 0100 (F,S) 3 hrs. cr.
General Psychology
Introductory course stressing the importance of the psychological mechanisms underlying all human behavior.

SOC 0110 (F,S) 3 hrs. cr.
Introduction to Sociology
An introductory course focused on the systematic study of society. Emphasis on major concepts of sociology and the scientific point of view in understanding and explaining human behavior and social phenomena.

Area F

ART 0110 (F,S) 3 hrs. cr.
Art Appreciation
A survey designed to increase appreciation of the visual arts through readings, slide lectures, library research and visits to the George A. Spiva Center for the Arts. Development of the cognitive and critical processes as they relate to the visual arts are emphasized.

MUS 0106 (F,S) 3 hrs. cr.
World Music
An ethnomusicological survey of select indigenous musics and their cultures. The musical cultures selected for study are not those found in Eurocentric (Western art) musics. There are no prerequisites.

MUS 0110 (F,S,Su) 3 hrs. cr.
Music Appreciation
A survey of masterpieces of Western musical literature; intended for non-music major.

TH 0110 (F,S,Su) 3 hrs. cr.
Theatre Appreciation
Introduction to theatre as a communicative and fine art emphasizing collaborative efforts of playwright, artistic director, designer, actor and crew. Activities include the interpretation and evaluation of plays through scripts, live and taped performances.

ENG 0150 (F,S) 3 hrs. cr.
Introduction to Literature
An introduction to the major literary genres, including the examination of literary themes and techniques common in fiction, poetry and drama. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0261 (F,S) 3 hrs. cr.
World Literature I
Selected literature from the ancient world through the Renaissance, excluding British and American literature. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0262 (F,S) 3 hrs. cr.
World Literature II
Selected literature from the Renaissance to the present, excluding British and American literature. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.

ENG 0271 (F,S) 3 hrs. cr.

British Literature I
Survey of British literature from its beginnings through the eighteenth century. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.
ENG 0272 (F,S) 3 hrs. cr.
British Literature II
Survey of British literature from the Romantic Movement to the present. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.
ENG 0281 (F,S) 3 hrs. cr.
American Literature I
A survey of American literature from its beginning to the Civil War. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.
ENG 0282 (F,S) 3 hrs. cr.
American Literature II
A survey of American literature from the Civil War to the present. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 or ENG 111.
ENG 0305 (F,S) 3 hrs. cr.
The Short Story
An in-depth study of the short story with representative writers from throughout the world. Option for satisfying Area F General Education requirement. Prerequisite: ENG 101 and 102 or ENG 111.
PHIL 0201 (F,S-Honors,Su-Even) 3 hrs. cr.
Introduction to Philosophy
Comparative survey of major types of philosophy and of representative problems in philosophy. Option for satisfying Area F General Education requirement.
PHIL 0212 (F-Even) 3 hrs. cr.
Ethics
Exploration of the problems of value and personal moral standards, comparative survey of major ethical systems and evaluation of the chief ethical struggles in contemporary society. Option for satisfying Area F General Education requirement.

<u>Area G</u>
KINE 0103 (F,S,Su) 2 hrs. cr.
Lifetime Wellness
Designed to provide students with the knowledge and self-management skills that will assist them in adopting healthy lifestyles. The course will encompass all areas of wellness: physical, emotional, spiritual, social and intellectual.

SCC Course Descriptions

The following course descriptions are suggested equivalent credits for the courses completed at SCC

Area A

ENG 101 English Composition I ... 3

Prerequisites: Placement or ENG 096 with passing grade or a grade of C or higher in ESL 102

College-level writing course required for all other college-level writing classes. Emphasizes essay structure, ways of organizing information, and use of sources. Basic research skills and critical thinking skills as integral part of course.

ENG 102 English Composition II ... 3

Prerequisites: C grade in ENG 101

Advanced college-level writing course emphasizing analysis and in-depth research. Critical reading and thinking skills as well as library skills are integral part of course.

Area B

SPE 101 Oral Communication ... 3

Focus on importance of communication competence in a variety of situations. Topics include verbal and nonverbal communication, listening, perception, self-concept, small group communication, and public speaking. Students required to prepare and present three to four graded oral presentations.

Area C

MAT 160 College Algebra ... 4

Prerequisites: Grade of C or better in MAT 121 or ASMNT MAT 160.

Designed for students in transfer programs. Topics include linear and quadratic equations and inequalities; complex numbers and solution of higher degree polynomial equations; systems of linear equations; matrices; graphing functions including exponential, logarithmic, and rational polynomial functions; conic sections; sequences, and series. Students may not receive credit for both MAT 160 and MAT 171.

MAT 171 Pre-Calculus Mathematics ... 6

Prerequisites: Grade of B or better in MAT 121 or ASMNT MAT 171.

Unified study of College Algebra and Trigonometry provides necessary background for Calculus. Includes linear, quadratic, rational, and higher degree polynomial equations and inequalities; systems of equations; relations and functions along with graphs and equations; exponentials and logarithms; inverse; degree and radian measure; trigonometric functions; identities; triangles; vectors; polar coordinates; complex numbers; matrices and determinants; sequences and series; binomial theorem; mathematical induction; and applications. Students may not receive credit for MAT 171 and either MAT 150 and MAT 160. Students not planning to take Calculus may satisfy mathematics requirement for A.A. degree with MAT 160 or MAT 165 in lieu of MAT 171.

MAT 180 Calculus and Analytic Geometry I ... 5

Prerequisites: Grade of C or better in MAT 171 or both MAT 150 and MAT 160 or ASMNT MAT 180.

First in a sequence of three courses including analytic geometry, differential calculus, and integral calculus. Recommended for majors in mathematics, computer science, physical sciences, or engineering. Includes analytic geometry, functions, limits, continuity, the derivative and differentials, applications of the derivative and differentials, antidifferentiation, indefinite and definite integrals, and applications of definite integral.

Area D

BIO 105 Essentials of Biology ... 3

Examines fundamental principles of biology. Includes organization of living things, scientific method, cell and molecular biology, genetics, ecology, evolution, and relationship between biology and society. Suitable for non-science majors.

Corequisites: Recommended (not required) BIO 106

BIO 106 Essentials of Biology Laboratory ... 1

Emphasis on use of methodologies typical of biological studies. Compliments topics covered in BIO 105. Suitable for non-science majors.

Corequisites: BIO 105

BIO 110 Human Biology ... 3

Survey of human body structure and function for non-science major. Study of all organ systems of the body along with current topics in human biology.

BIO 113 Human Biology Laboratory ... 1

Use of models, specimens, and investigative activities intended to enhance study of human organism.

Corequisites: BIO 110

BIO 150 General Biology I ... 5

Prerequisites: MAT 121, One year of high school biology or equivalent with a C or better; One year of high school chemistry or equivalent with a grade of C or better. Basic principles of plant and animal biology, including cell biology, biochemistry, energetics, genetics, evolution, and ecology. Appreciation of scientific method in general and biological methodology. Lab component will emphasize the use of methodologies typical of biological studies. For science majors.

BIO 246 Microbiology ... 4

Previously BIO 245 and BIO 247

Prerequisites: High-school biology or equivalent and high-school chemistry or equivalent with a grade of a "C" or better within the last five years.

Basic concepts of microbiology including metabolism, genetics, and inhibition of bacteria, fungi and viruses. Emphasis on human pathogens, infection, resistance, and immunity. Laboratory exercises reinforce lecture concepts and teach fundamental skills in microscopy, aseptic technique, isolation, and identification of microorganisms.

BIO 240 Anatomy and Physiology I ... 3

Prerequisites: High school biology or its equivalent within the last five years with a grade of C or better.

Structure and function of human body, with particular attention to cell biology, skeletal system, muscular system, nervous system, and endocrine system.

Corequisites: BIO 243

BIO 243 Anatomy and Physiology Laboratory I ... 1

Activities to enhance study of topics covered in the lecture section (BIO 240). Use of models, charts, and both microscopic and gross specimens to illustrate various systems.

Corequisites: BIO 240

CHM 115 General Chemistry I ... 5

Prerequisites: MAT 098 and 1 year of High School Chemistry or CHM 101 or equivalent with a grade of C or better.

Study of how compounds are formed and named, chemical equations, calculations and problem-solving involving elements, compounds and chemical equations including stoichiometry, thermochemistry; properties of gases, solids, solutions, and acids and bases. Experiments introduce basic lab skills and aspects of qualitative and quantitative analysis.

CHM 116 General Chemistry II ... 5
Prerequisites: Completion of CHM 115 with a grade of C or better.
Continuation of Chemistry I. Includes study of chemical equilibria, acid-base chemistry, complex ions, thermodynamics, oxidation-reduction reactions, nuclear chemistry, and introduction to organic chemistry. Experiments continue to introduce and improve laboratory skills and problem solving.
CHM 240 Organic Chemistry I ... 3
Prerequisites: CHM 116, with a grade of C or better.
Introduction to structure, nomenclature, properties, synthesis and reactions of aliphatic and aromatic carbon compounds.
CHM 243 Organic Chemistry I Laboratory ... 2
Prerequisites: CHM 240, with a grade of C or better or equivalent.
Hands-on introduction to laboratory techniques and procedures of organic synthesis and identification.
Corequisites: CHM 241
PHY 150 General Physics I ... 3
Prerequisites: MAT 150, or MAT 160
Survey of kinematics, dynamics, energy, momentum, rotational motion, fluids, and thermodynamics. Non-calculus in approach. Three hours of lecture-recitation and two hours of laboratory per week.
Corequisites: PHY 153
PHY 153 General Physics I Laboratory ... 1
Experimental component of PHY 150.
Corequisites: PHY 150

<u>Area E</u>
HIS 101 U.S. History to 1877 ... 3
Survey of historical, cultural, political, economic, and institutional forces and events that shaped United States history through period of Reconstruction. HIS 101 complies with provisions of Section 170.011 RsMo.
HIS 102 U.S. History Since 1877 ... 3
Survey of the historical, cultural, political, economic, and institutional forces and events that shaped United States history from 1877 to present. HIS 102 complies with provisions of Section 170.011 RsMo.
POL 101 American Government ... 3
Basic concepts of political science with major emphasis on origin, principles, organization, and nature of American federal system and its politics. POL 101 complies with provisions of Section 170.011 RsMo.
ANT 105 Introduction to Biological Anthropology ... 3
Survey of common topics, including human evolutionary fossil record, modern physical variations such as race, forensics, and primate behavior and evolution.
ECO 100 Survey Economics ... 3
Prerequisites: One of the following must be completed: MAT 096, ASMNT A120.
Introduction to basic economic decision-making at both micro and macro levels. Overview of topics relating to aggregate economic activity and to individual economic activity of households and firms.
ECO 110 Principles of Macroeconomics ... 3
Prerequisites: One of the following must be completed: MAT 098, ASMNT A121
Introduction to determination of aggregate measures of economic activity, price level, employment and national output. Topics include inflation, unemployment and economic growth; money and banking system; and formulation of fiscal and monetary policies in pursuit of economic stabilization.

ECO 120 Principles of Microeconomics ... 3
Prerequisites: One of the following must be completed: MAT 098, ASMNT A121
Introduction to determination of prices in product and factor markets. Topics include individual decision-making behavior of households and firms; interactions in markets of varying degrees of competition; and effects of such markets on allocation of scarce resources and distribution of income.
SOC 101 Introduction to Sociology ... 3
Examines relationship between individual and society in social structure of modern society. Introduction to way in which sociologists interpret and research human behavior. Covers patterns of social interaction and social influences on individual conduct.
PSY 101 Introduction to Psychology ... 3
Examination of behavioral, cognitive, psychoanalytic, humanistic, and biological viewpoints in psychology. Includes learning principles and applications, perception, motivation, emotions, stress, psychobiology, personality, abnormal behavior, and approaches to therapy.

Area E
ART 101 Art Appreciation ... 3
Lectures to stimulate visual, emotional and intellectual awareness of humankind's artistic heritage. Covers historically significant art forms from prehistoric through postmodernism.
MUS 111 Music Appreciation ... 3
Introductory course for non-music majors. Presents main elements of music, how they develop and change throughout history, and the role of music in society. Emphasis on understanding musical elements and aural applications. Attendance required at live performances.
THE 122 Introduction to Theater ... 3
Emphasizes appreciation of theater as one of living arts. Surveys theater history and dramatic theory from Greeks to present Broadway. Includes lectures, films and discussions on the practitioners and work. Requires attendance at live theater productions.
LIT 210 American Literature From 1620-1865 ... 3
Prerequisites: ENG 101
Study of development of U.S. literary tradition beginning with early colonists through Civil War. Reading and discussion of major authors of poetry, fiction, drama and historical documents.
LIT 220 American Literature From 1865-present ... 3
Prerequisites: ENG 101
Survey of American literature beginning with the period after the Civil War to the present. Major American writers in poetry, fiction, and drama will be read and discussed in relation to the development of intellectual thought and literary theory. Includes writers who reflect diverse voices ? Native American, African American, Asian American, Latin American, etc. ? who make America unique.
LIT 250 English Literature Before 1800 ... 3
Prerequisites: ENG 101
Overview of earliest works written in English. Traces development of various forms of literature from beginnings in early Anglo-Saxon poetry through Shakespeare?s plays and Romantic Poets.
LIT 260 English Literature After 1800 ... 3
Prerequisites: ENG 101
Overview of English literature beginning with Romantics and continuing through Modern Age. Includes poetry, drama, fiction, and essays.
LIT 272 World Literature - Ancient World Through the Renaissance ... 3
Prerequisites: ENG 101
Explores foundations of Western literary traditions from pre-Classical and Classical World through Middle Ages and Renaissance.

LIT 273 World Literature - Enlightenment to 20th Century ... 3
Prerequisites: ENG 101
Explores foundations of Western literary traditions from the Enlightenment to early 20th Century.
PHL 101 Introduction to Philosophy ... 3
Introduction to philosophical inquiry and historically important philosophical ideas by exploring issues discussed by classical and/or modern philosophers.
PHL 160 Ethics ... 3
Introductory survey of classical and contemporary theories in field of ethics. Questions considered regarding ideal moral life, nature of good and evil, principles for distinguishing right from wrong, and ethical relativism versus objectivism. Discusses selected moral dilemmas of modern living.

Area G
PHE 106 Personal Wellness ... 2
Focuses on development of positive lifestyle by using combination of classroom/activity. Experiences include concepts of fitness, lifetime sports, stress management techniques, leisure well being, contemporary threats, and nutrition. Completion allows current SCC students to continue use of the SCC Fitness Center.

Area I
ANT 101 Physical Anthropology and Archaeology ... 3
Study of human evolutionary development. Principles, theories, data, and methods employed by physical anthropologists and archaeologists used to cover subjects such as evolution, human prehistory, the fossil evidence of homo sapiens and ancestral forms.
BUS 255 International Business ... 3
Prerequisites: BUS 101
Survey course to develop understanding and appreciation of environments and operations of international business. The nature of international business, international environment, organizations and monetary systems, foreign environment, and management tools that deal with environmental forces.
GEO 100 Principles of Geography ... 3
Covers the major areas of geographic study, both physical and cultural, and how each is distributed globally. Promotes understanding of a multicultural world and the differing values held by people throughout that world.
GLC 215 Intercultural Communication ... 3
Explores issues related to intercultural communication process. Considers important role of context (social, cultural, and historical) in intercultural interactions. Topics include stereotyping, prejudice, ethnocentrism, social class and religious identities, folk culture, power, and intercultural conflict.
HIS 145 Western Civilization: Ancient and Medieval Heritage ... 3
Introduction to ancient civilizations of Eastern Mediterranean, classical civilizations of Greece, Rome, and Western European society up to the Renaissance.
HIS 146 Western Civilizations, Modern European Heritage ... 3
Beginning with Renaissance, survey of history of Western civilization through post-WWII period.
ARB 101 Arabic Language and Culture I ... 4
Basic Arabic language skills includes speaking, listening comprehension, reading and writing, with emphasis on effective linguistic functioning in real situations. Explores cultures of Arabic-speaking countries.
FRN 101 French Language and Culture I ... 4
Beginning French course that presents basic language skills of speaking, listening comprehension, reading and writing, with emphasis on effective linguistic functioning in real situations. Includes culture unit on Paris. Opportunity provided for audio-lingual practice outside of class.

GRM 101 German Language and Culture I ... 4
Beginning German course that presents basic language skills of speaking, listening comprehension, reading and writing, with emphasis on effective linguistic functioning in real situations. Opportunity provided for audio-lingual practice outside of class.
SPN 101 Spanish Language and Culture I ... 4
Beginning Spanish course that presents basic language skills of speaking, listening comprehension, reading and writing, with emphasis on effective linguistic functioning in real situations. Opportunity provided for audio-lingual practice outside of class.

Possible Electives taken at SCC (16-17 credits)

BIO 122 Environmental Sciences ... 3
Study of biological and physical characteristics and principles of nature. Deals with diverse topics such as ecology, endangered species, pollution, meteorology, earth studies, populations, etc. Occasional guest speakers or field trips included. (For non-science majors)
BIO 151 General Biology II ... 5
Prerequisites: BIO 150 with a grade of C or better
Continuation of General Biology I. Emphasis on botany, zoology, animal systems, behavior, taxonomy. Lab component will feature laboratory and field activities that complement studies in lecture. For science majors.
BIO 241 Anatomy and Physiology II ... 3
Prerequisites: BIO 240 with a grade of C or better, BIO 243.
Continuation of study of structure and function of human body. Topics include cardiovascular system, lymphatic system, respiratory system, digestive system, urinary system, and reproduction.
Corequisites: BIO 244
BIO 244 Anatomy and Physiology Laboratory II ... 1
Prerequisites: BIO 243, BIO 240
Continuation of BIO 243. Use of laboratory activities to enhance study of human body structure and function.
Corequisites: BIO 241
BIO 242 Anatomy and Physiology Supplement ... 1
Prerequisites: High school biology or its equivalent within the last five years.
Supplement and reinforcement of concepts presented in BIO 240 and 243. Strongly recommended for students who have failed or received a "W" in BIO 240 or its equivalent; recommended for all students in BIO 240.
Corequisites: BIO 240 and 243
BIO 265 Pathophysiology ... 3
Prerequisites: BIO 240, BIO 241, BIO 243, BIO 244
Study of mechanisms of disease conditions. Working from foundation of normal function, exploration of what can go wrong and how. Emphasis on conditions most commonly encountered by today's health professionals. Combination of lecture, discussion, and seminar.
BIO 280 (formerly 140) Nutrition Pathways ... 3
Prerequisites: BIO 240 with a grade of C or better, BIO 241 can be taken as a prerequisite or corequisite
Scientific study of the essential nutrients and their function in the body. Recommended nutrient intakes, diet assessments and planning, relationships between diet and health will also be covered.
BUS 101 Introduction to Business ... 3
Survey course covering many facets of business; a general knowledge of the modern business environment. Review of economic, social, legal, and ethical systems affecting U.S. firms. General concepts of business organization, management, people aspects of business, together with functions of production, marketing (including international), accounting, finance, computers, and information systems.
BUS 115 Introduction to Public Relations ... 3
Basic functions of public relations in the public and private sector. Emphasis on history, case studies and writing, including press releases, media plans and speeches. Media's role in public relations, and role in shaping and swaying public opinion. Specific jobs and emphasis areas also covered.
CHM 222 Quantitative Analysis ... 3
Prerequisites: CHM 116, with a grade of C or better.
Introduction to volumetric, spectrophotometric, and gravimetric chemistry. Focus on

instrumental analysis and advanced chemical laboratory skills. Additional laboratory time may be required.

CHM 241 Organic Chemistry II ... 3

Prerequisites: CHM 240, with a grade of C or better.

Continuation of study of structure, nomenclature, properties, synthesis and reactions of aliphatic and aromatic carbon compounds with emphasis on chemistry of carbonyl compounds.

Corequisites: CHM 243

GEO 120 Introduction to GIS (Geographic Information Systems) ... 3

Introduction to the concepts and experiences in Geographic Information Systems (GIS). Examines how to manipulate and analyze spatial data with exploration of practical uses of GIS. Includes using GIS technology and software through hands-on exercises and projects to solve real-world problems. Focus on developing skills in the use of visual maps and written communication in GIS.

GEO 225 Advanced GIS ... 3

Prerequisites: GEO 120 or permission of instructor.

Exploration of increasingly complex geographic concepts using computer and analytical methods to solve spatial problems. Sophisticated GIS technology used to find and explain spatial patterns. ESRI products and GPS technology used to create data and maps.

PHY 105 Environmental Geology ... 3

Examination of geologic processes and hazards that influence human activities and the geologic aspects of pollution and waste-disposal.

PHY 107 Environmental Geology Laboratory ... 1

Exercises focus on environmental and social issues relevant to environmental problems and the effects of human interaction in geologic processes.

Corequisites: PHY 105-Environmental Geology.

MAT 175 Introductory Statistics ... 3

Prerequisites: Grade of C or better in MAT 160, ASMNT MAT 180, or ASMNT MAT 210.

Topics include descriptive statistics, sampling techniques, counting techniques, probability, probability distributions, confidence interval estimates, hypothesis testing, simple linear regression, and one-way ANOVA.

PHY 151 General Physics II ... 3

Prerequisites: PHY 150, PHY 153

Begins with wave motion, but emphasis on electricity and magnetism. Treats geometric and wave optics. Non-calculus in approach. Three hours of lecture-recitation and two hours of laboratory per week.

Corequisites: PHY 154

PHY 154 General Physics II Laboratory ... 1

Prerequisites: PHY 150, PHY 153

Experimental component for PHY 151.

Corequisites: PHY 151

SPE 225 Professional Communication ... 3

Prerequisites: SPE 101

Role of and development of professional communication skills intrinsic to the workplace. Focus is on the development of theoretical and performance competencies in interpersonal communication, small group communication, organizational communication and public communication. Includes understanding organizational diversity and ethics; improving listening skills; enhancing interviewing skills; managing group meetings and teamwork; and presentation of informational and persuasive proposals via enhancement of verbal, vocal and visual strategies.

Additional foreign language courses:

ARB 101 Arabic Language and Culture I ... 4

Basic Arabic language skills includes speaking, listening comprehension, reading and writing, with emphasis on effective linguistic functioning in real situations. Explores cultures of Arabic-speaking countries.

ARB 102 Arabic Language and Culture II ... 4

Prerequisites: ARB 101

Continuation of ARB 101. Explores cultures of Arabic-speaking countries.

ARB 201 Arabic Language and Culture III ... 4

Prerequisites: ARB 102 or equivalent

Follow-up to ARB 102. Expanded opportunities for listening to, speaking, reading, and writing Modern Standard Arabic. Continued exploration of culture, with an emphasis on Arab intellectuals, poets and writers. Emphasis remains on linguistic functioning in real situations.

ARB 202 Arabic Language and Culture IV ... 4

Prerequisites: ARB 201 or equivalent.

Follow-up to ARB 201. Precise and coherent use of Modern Standard Arabic language through development of the speaking, reading, writing and listening skills; more focus on syntax, morphology, and grammar. Students will take part in meaningful, functional communication that might be encountered in real life complex situations. Varied reading and writing activities representing cultural topics will be included. Media Arabic will be introduced.

FRN 101 French Language and Culture I ... 4

Beginning French course that presents basic language skills of speaking, listening comprehension, reading and writing, with emphasis on effective linguistic functioning in real situations. Includes culture unit on Paris. Opportunity provided for audio-lingual practice outside of class.

FRN 102 French Language and Culture II ... 4

Prerequisites: FRN 101 or 1 to 1 1/2 years minimum high school language study

Continuation of French 101, including culture unit on France.

FRN 195 French Language and Civilization ... 1-9 hrs

Involves travel and/or study in Francophone or French culture area. May have prerequisites and may be repeated for credit. Will not satisfy General Education requirements.

FRN 201 French Language and Culture III ... 4

Prerequisites: FRN 102 or 1 1/2 to 2 years minimum high school language study. A grade of C or better in the prerequisite course is recommended

Follow up to French 102. Provides expanded opportunities for listening to, speaking, reading, and writing French. Continues exploration of culture, with emphasis on Francophone world. Emphasis remains on linguistic functioning in real situations.

FRN 202 French Conversation and Composition ... 4

Prerequisites: FRN 201 or 2 years minimum high school language study. A grade of C or better in the prerequisite course is recommended.

Intensive one-semester course focusing on conversational skills, grammar review, and composition. Exploration of role of French in North America.

GRM 101 German Language and Culture I ... 4

Beginning German course that presents basic language skills of speaking, listening comprehension, reading and writing, with emphasis on effective linguistic functioning in real situations. Opportunity provided for audio-lingual practice outside of class.

GRM 102 German Language and Culture II ... 4

Prerequisites: GRM 101 or 1 to 1 1/2 years minimum high school language study. A grade of C or better in the prerequisite course is recommended.

Continuation of German 101.

GRM 195 German Language and Civilization Experience ... 1-9 hrs
Involves travel and/or study in German speaking or German culture area. May have prerequisites and may be repeated for credit. Will not satisfy general education requirements.

GRM 201 German Language and Culture III ... 4
Prerequisites: GRM 102 or 1 1/2 to 2 years minimum high school language study. A grade of C or better in the prerequisite course is recommended.
Intensive course with emphasis on conversational proficiency. Grammar review and expansion. Variety of literary and cultural readings used for vocabulary building and as basis for classroom discussion. Opportunity provided for audio-lingual practice outside of class.

GRM 202 German Conversation and Composition ... 4
Prerequisites: GRM 201 or two years minimum high school language study. A grade of C or better in the prerequisite course is recommended.
Continuation and completion of materials presented in German 201.

SPN 101 Spanish Language and Culture I ... 4
Beginning Spanish course that presents basic language skills of speaking, listening comprehension, reading and writing, with emphasis on effective linguistic functioning in real situations. Opportunity provided for audio-lingual practice outside of class.

SPN 102 Spanish Language and Culture II ... 4
Prerequisites: SPN 101 or 1 to 1 1/2 years minimum high school language study. A grade of C or better in the prerequisite course is recommended.
Continuation of Spanish 101.

SPN 195 Spanish Language and Civilization Experiences ... 1-9 hrs
Involves travel and/or study within Hispanic or Latin American culture area. May have prerequisites and may be repeated for credit.

SPN 201 Spanish Language and Culture III ... 4
Prerequisites: SPN 102 or 1 1/2 to 2 years minimum high school language study. A grade of C or better in the prerequisite course is recommended.
Follow up to SPN 102. Provides expanded opportunities for listening, speaking, reading, and writing. Opportunity provided for audio-lingual practice outside of class.

SPN 202 Spanish Conversation and Composition ... 4
Prerequisites: SPN 201 or two years minimum high school language study. A grade of C or better in the prerequisite course is recommended.
Intensive one-semester course focusing on conversational skills, grammar review and composition. Exploration of role of Hispanic world.